

What is claimed is:

1. A method for joining plastic structural component parts by means of laser radiation, comprising the steps of:
forming a first thin-walled plastic structural component part having a quality surface so as to be absorbent for the laser radiation;
welding said component part by the transmission radiation method to a second plastic structural component part which is transparent to the laser radiation on a side located opposite from the quality surface;
heating the transparent plastic structural component part beforehand in order to reduce the temperature gradient between the plastic structural component parts when joining, so that a faster melting of the transparent plastic structural component part is carried out by heat conduction during joining, and a thermal expansion in the absorbing plastic structural component part in the direction of the quality surface is limited.
2. The method according to claim 1, wherein the transparent plastic structural component part is heated by a separate heat source.
3. The method according to claim 1, wherein the material of the transparent plastic structural component part is composed in such a way that the heating is brought about even by a partial absorption of laser radiation or a laser wavelength.
4. The method according to claim 1, wherein the transmission method is carried out with laser radiation in the wavelength range of 700 nm to 1200 nm.
5. The method according to claim 4, wherein the transmission welding method is carried out with a broadband NIR radiator.

6. The method according to claim 1, wherein the transparent plastic structural component part serves to reinforce or stiffen the thin-walled plastic structural component part.

7. The method according to claim 1, wherein the transparent plastic structural component part serves to fasten the thin-walled plastic structural component part.